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An Inquiry into the Cause which renders the Water of the Dead Sea unfitted for the support of Animal Life. By ROBERT JAMES GRAVES, M. D., F. R. S. Communicated by the author.

The earth contains living beings so generally on its land, and in its waters, that we feel surprise at finding portions of either destitute of both animals and vegetables. When this exception occurs on a large scale, it naturally attracts more attention, and may even, as in the instance of the Dead Sea, obtain universal notoriety. Under these circumstances, the nature of the physical causes which have produced an effect so singular and unexpected becomes a subject of very interesting inquiry; in conducting which we will be evidently much assisted if we can discover, in some other country, a large body of water which displays not only a similar absence of life, but likewise a combination of physical qualities closely resembling, if not absolutely identical with those of the Dead Sea.

This, the subject of our investigation, is a very deep and extensive lake, into which the Jordan—a considerable river—and several smaller streams, all abounding in the fishes and fluvial vegetables of Palestine, discharge their waters, and yet, as the name implies, it has been generally believed to harbor no living thing within its fatal boundaries. The surface of this lake is said to be many hundred feet below the level of the Mediterranean. It is about sixty miles in length, but varies considerably in breadth, and has of course no rivers flowing from it. Until the publication of the researches of Lieutenant Lynch, who was sent, by the government of the United States, to conduct an expedition fitted out in America for the purpose of thoroughly examining the waters and shores of the Dead Sea, we absolutely knew nothing certain or definite respecting either. To our enterprising transatlantic brethren we are indebted for the first chart of a lake which lies as it were in the very cradle of civilization, and which, nevertheless, had (as far as we are aware) never before been surveyed or even navigated. My countryman, *Costigan*, it is true, succeeded in launching on it his frail skiff, but he very speedily fell a victim to excessive anxiety, fatigue, and the baneful effects of climate; and the observations subsequently made by Molyneux, Robinson, Kinglake, and Warburton, however interesting to the general reader, contained nothing sufficiendy accurate to form the groundwork of scientific conclusions.

The progress of geographical discovery has lately brought to light the existence of an inland sea still more extensive, and displaying within its boundaries an absence of life equally remarkable, viz., the Great Salt Lake of North America, first navigated in 1847 by Fremont, commander of the exploring expedition fitted out by the government of the United States. This lake has many and striking points of resemblance with the Dead Sea, some of which it may be well to enumerate.

1*st*. It is equally salt, and, of course, has as high a specific gravity.

2*dly*. Its banks and the neighboring country abound equally in great deposits of salt, and the various rocks usually associated with these natural magazines of salt.

3*dly*. In the neighborhood of both, hot springs occur, several of which are sulphurous, and evidently owe their existence to volcanic action, as is proved by the coëxistence of tufa, lava, basalt, and other formations confessedly of igneous origin.

4*thly*. In both cases the surrounding country at considerable distances exhibits a repetition on a small scale of similar phenomena. Thus, in Palestine we have, according to the observation of Lynch, hot sulphurous springs and very productive bitumen pits, at the higher source of the Jordan, *many miles distant from the Sea of Galilee*. Accordingly, we must acknowledge the operation of an agency in the production of salt and sulphurous waters, together with bitumen, in many remote parts of Palestine—an agency *similar* in all respects to that which has produced like effects at the Dead Sea and its immediate vicinity. The same observation applies to the Great Salt Lake of America, for all its concomitant and remarkable peculiarities reappear in localities far removed from the lake itself.

5*thly*. A very singular coincidence is, that each of these great reservoirs of salt water receives a river derived from a neighboring fresh water lake. Thus the *Jordan* discharges the superabundant waters of the Sea of *Galilee* into the *Dead Sea*, while in like manner the *Great Salt Lake* receives a considerable supply of fresh water from the *Utah Lake*.

6*thly*. Though the Dead Sea receives copious supplies of fresh water from the Jordan and various other considerable streams and rivulets, yet the freshening effect is only felt at the mouths of those rivers and their immediate neighborhood, so far as the shallow water (due to the accumulation of detritus carried down by their currents) extends. While shallow, the water, at first fresh, becomes brackish, and all traces of freshness have disappeared when the deep parts of the lake are reached. The same remark applies to the *Great Salt Lake*, which is upwards of seventy miles long and of great depth. The Bear River and the Weber empty themselves into it, and though both are large rivers, they scarcely produce any freshening effect except at the point of disembogue-ment. It is of great importance to our inquiry to remark that in the case of the *Dead Sea*, and of the *Great Salt Lake*, all the affluents contain the usual proportions of fishes and other animals, as well as vegetables peculiar to their respective countries. Nay more, in each case where the affluent has formed an extensive delta, there, in proportion to the average degree of freshness of the water, we find various plants growing in abundance; neither are the banks or borders of these lakes invariably destitute of trees, shrubs, or grass. On the contrary, wherever the nature of the surrounding rocks affords materials for a fertile soil, and rivers or springs supply the necessary moisture, there vegetation, occasionably luxuriant, is to be found. Thus it is necessary for us to bear in mind that life is not banished from every part of either the *Dead Sea* or *Great Salt Lake*, or their respective shores, but encroaches upon both when favorable physical circumstances exist to encourage the growth and maintenance of either animals or plants. It is true that the rugged rocks, which in most parts surround the *Dead Sea*, are, from their nature and the absence of supplies of fresh water, more destitute of vegetation than those around the *Great Salt Lake*. This admits a ready explanation by the much greater humidity of the air, and frequency of rain in the western parts of America than in Palestine.

It must not be forgotten, likewise, that certain rocks disintegrate very slowly under exposure to atmospheric influences, and others seem altogether incapable of supporting vegetation. Thus I have examined several extinct volcanic craters in Auvergne, and, after the most minute search, could not discover the existence of even a lichen on their surface; and I was the more surprised at this fact, because other parts of that district exhibited the richest soil spreading over fields of lava, and extending far up mountains composed of that material.

Having made these preliminary observations, we must next examine more accurately the nature and proportions of the saline contents to which we have attributed the absence of fishes, and the usual inhabitants of deep water, from the inland seas in question.

Mr. Monk, author of the Golden Horn, or Sketches in Asia Minor, gives a very interesting description of his tour round certain portions of the Dead Sea; and we are indebted to his exertions for an analysis of its water, a specimen of which he brought to Mr. Herapeth who found in it rather more than 24 per cent. of saline matter, consisting of chlorides of potassium, sodium, calcium, magnesium, iron and manganese, with bromide of magnesium. This high saline impregnation alone is quite sufficient to account for the absence of both vegetable and animal life, even on the supposition that none of the salts are actually poisonous to either, except when present in very large proportions; a supposition which, however, is not warranted, as one of them, the bromide of magnesium, is detrimental to animal life.

We owe to Fremont the only analysis of the water of the Great Salt Lake I have been able to obtain, and which, although rough, is quite sufficient for our purposes. He obtained from forty pints of the water fourteen pints of solid saline residuum i. e. more than a third by weight of salts! Fremont says, that subsequent and more accurate analysis detected in this residuum,

chlorides of sodium, calcium, and magnesium, together with sulphates of soda and lime. Now, as the Great Salt Lake contains no fishes or other animals, and, in this respect, agrees with the Dead Sea, may we not, or rather must we not, attribute so striking a coincidence to the saline properties of their waters?

It is plain that fishes of the ordinary specific gravity could not swim at any depth in such a medium, for its greater buoyancy would tend powerfully to bring them to the surface. This quality of the water would of itself render it unfavourable to such animals, but it is probable that the chief obstacle to their living in it is to be found in the immense proportion of salts present, by which it is rendered unfit for the purposes of respiration and nutrition.

It is true that some crustaceous and other animals of a still lower grade have been found in the strong brines of salt mines; and it is by no means proved that such do not exist even in the highly saline waters of these lakes, for no investigations have been made sufficiently numerous or accurate to determine this curious question. Indeed, Fremont (p. 153) discovered numerous *larvæ of insects, or skins of worms*, as he calls them, on the shore of an island in the Great Salt Lake, but he had no means of determining either the species or the *habitat*—but those he observed were dead and evidently thrown up by the waves—the individuals were not larger than a grain of oats. Future observers should seek for them, or something similar, on the shores of the Dead Sea. A very interesting subject of inquiry here suggests itself. We have observed that the rivers which flow into the Dead Sea and the Great Salt Lake are peculiarly rich in fishes. Are these fishes of species peculiar to these rivers, or do they occur in other parts of Palestine and North America? The researches of my friend Agassiz, published in a previous number of this Journal, induce me to favor the former supposition.

With respect to plants, salt, in any considerable quantity, proves destructive to the ordinary species. This is proved by the experiments of Dr. Voelcker, detailed in the report of the twentieth meeting of the British Association, p. 115. He found that most plants were injured seriously when watered for a month with water containing 100 grains of common salt to a pint of water, *i. e.*, about 1-72 part of salts. Compare this result with the waters of the Great Salt Lake or Dead Sea, and we at once perceive that it is impossible for any plant to live in so intensely saline a medium. Dr. Voelcker found that the grasses are affected more injuriously by salt than any other family of plants, a fact which explains the total absence of every approach to pasture suitable for cattle over extensive districts called the *Salt Deserts*, south of the Great Salt Lake, and which, according to the description of travellers, present the most appalling spectacles of great tracts of country totally destitute of life that the world affords. They truly deserve the name of the *Dead Deserts*.

Mr. Bryant draws the following picture of this region, to which I am particularly anxious to direct the reader's attention, as it represents scenes quite as desolate as those which, in the neighborhood of the Dead Sea, have been portrayed by the pencils of Mr. Warburton and the author of Eothen.

"Descending into the plain or valley before us, we took a northwest course across it, striking Captain Fremont's trail of last year, after we had commenced the ascent of the slope on the western side. The breadth of this valley at this point, from the base of one range of mountains to the other, is about twenty miles. Large portions of it are covered with a saline efflorescence of a snowy whiteness. The only vegetation is the wild sage; and this is parched and shrivelled by the extreme drought. Not a solitary flower or green plant has exhibited itself. In our march, we crossed and passed several deep ravines and chasms, ploughed by the waters from the mountains during the melting of the snows, or hollowed out by the action of the winds. Not a living object has been seen during our day's march.

We encamped about two o'clock, P. M. There were a few dwarf cedars in our vicinity, and scattered branches of dead grass. In a ravine near us the sand is moist, and, by making an excavation, we obtained a scant supply of water, impregnated with salt and sulphur. A dense smoky vapor fills the valley, and conceals the summits of the distant mountains. The sun, shining through this, dispenses a lurid light, coloring the bare and barren desert with a more dismal and gloomy hue.

* * * * * *

We passed over this ridge through a narrow gap, the walls of which are perpendicular and composed of the same dark scoriaceous materials as the debris strewed around. From the western terminus of this ominous-looking passage, we had a view of the dark desert plain before us, which, as far as the eye could penetrate, was of a snowy whiteness, and resembled a scene of wintry frosts and icy desolation. Not a shrub or object of any kind rose above the surface for the eye to rests upon. The hiatus in the animal and vegetable kingdoms was perfect. It was a scene which excited mingled emotions of apprehension and admiration.

About eleven o'clock we struck a vast white plain, uniformly level, and utterly destitute of vegetation, or any sign that shrub or plant had ever existed above its snow-like surface. Pausing a few moments to rest our mules, and moisten our mouths and throats, from the scant supply of beverage in our powder-keg, we entered upon this appalling field of sullen and hoary desolation. It was a scene so entirely new to us, so frightfully forbidding and unearthly in its aspects, that all of us, I believe, though impressed with its sublimity, felt a slight shudder of apprehension.

(To be continued.)

LATE HOURS FOR YOUTH.

The article in this morning's Inquirer, under the above caption, so fully coincides with the views I have long entertained on the subject that I cannot but award it my hearty approval.

Time was when a young man known to be habitually in the practice of keeping "late hours" was *marked*, and the religious and thinking portion of the commnnity, *then* set their faces strongly against the evil, but alas, *fashion* has made sad inroads on many of the wholesome regulations of our forefathers (and this not among the least,) and we now find many whose age and experience should certainly teach them better, from a weak and foolish fondness for their children, openly apologizing for this *serious evil*.

We have an old adage that "Idleness is the parent of many vices," and I look upon this as scarcely less so. Trace the downward course of a majority of those who depart from the path of rectitude back to its source, and my word for it, you will find this at the very *fountain head*, the *parent*, as it were, of all the deviations.

I have a rising family, some of its members just about entering upon that period of life when the fascinations of "parties of pleasure" are, in the common course of things, likely to beset their path, and I confess, I have often looked into the dim future with anxious concern on this account. I would by no means curtail the young of innocent enjoyment; on the contrary, I would encourage it to any reasonable extent; but, had I my way, it *should be* at the price of *seasonable hours*.

That a reform is needed, I think no reflecting mind can deny, but where shall it begin? When conversing with the young on this subject, the common objection is, "*I do not like to make a move*"—"*I do not like to break up a party.*" But it must be remembered that *some one* must, and does begin, *at last*, and how then? On the other hand, how is it when some one has had *moral courage* enough to leave one of these companies at a suitable time? do these apologists then embrace the opportunity to follow the good example, or is "*solitary and alone*" the only attendant of our heroine?

A word or two more, and I have done. I have just introduced the feminine gender in my remarks, and depend upon it, the perfection of a reform in these "late hours," as well as the success of almost every other good work, rests very much with *females*. *This*, particularly, must be commenced by them—the routine and etiquette of "parties" need not be dilated upon *here* to demonstrate this. *Who*, then, will begin this good work—let not *echo* answer who?—*Inquirer*.

ATMOSPHERIC WAVES.

The term atmospheric waves is one which of late years has not unfrequently appeared in print in the reports of the British Association and other scientific publications, without, however conveying to the minds of the majority of readers other than a vague notion of its import. The phenomena which it indicates are nevertheless of a singularly interesting character, giving us, in what is yet known of them, an insight to some of the movements of the great aërial ocean which surrounds us.

One of the facts revealed to us by the barometer is, that the pressure of the atmosphere is undergoing continual modifications, now rising to a maximum, then descending to a minimum, at longer or shorter intervals. The maximum of pressure has been found by experience not confined to any special locality, but manifested over a wide region at one and the same time, forming, as it were, a continuous line, sometimes of great length. Extended observation has shewn that the readings of a barometer at one station are intimately related to similar readings at another, and all subordinated to some great natural law, the operation of which is not made out with certainty. Its manifestation is seen in the elevation and depression of the mercury: for example, at the most westerly of a series of stations the barometer may indicate a maximum of pressure; it passes over and is absorbed at the next in order; and so on *seriatim* until it has been traced at the whole number.

According to Professor Dove, the north and south aërial currents being converted into south-west in the one hemisphere and north-west in the other, by the rotation of the earth,

these directions would probably be found to apply to the barometric movements. But another set of currents has been detected as acting directly at right angles to the former, and the continued crossing and interference of the one with the other may be regarded as a cause of the apparent complexity of meteorological phenomena. A distinction, too, is to be made in the character of winds: some are the winds of 'translation,' others of 'oscillation,' and will bear a comparison with 'oceanic currents and tide streams.' The first are monsoons and trade-winds; the last, as Sir J. Herschel observes, 'take their rise in local and temporary causes prevailing over great areas simultaneously, the principle no doubt depending on the prevalence of cloud or clear sky, rain or dryness over great tracts for several days or weeks in succession. But once produced, and an extensive atmospheric undulation once propagated, a wind or system of winds dependent on such undulation necessarily arises also.'

Representing the maximum pressure at different stations, as above observed, by a line, it is found to have an advancing movement, caused, there is reason to believe, by an undulation, and so similar to the movements of the waters of the ocean, that the term *atmospheric wave* has been applied as most expressive of the peculiar action and effect. With maxima for wave-crests, and minima for trough or hollows, we may thus ascertain the extent and duration of a wave; taking care, however, not to confound the movement with that of the wind. The advancing form, it must be remembered, is associated with a molecular movement—the former indicated by the barometer, the latter due to the wind.

The inquiries made into this interesting branch of natural science, and first set on foot twenty years ago, are mainly due to the British Association. So actively were they at first taken up, that by the year 1844 there was more than seventy stations of observation, embracing Europe from north to south, with an outlier or two in Asia. A large mass of observations was speedily collected, involving so severe an amount of labor in their reduction and discussion as to cause most of the observers to shrink from the task of further research. The papers by Mr. Birt, published for several consecutive years in the reports of the British Association, contain the sum of much that has been done in this and other countries; while those by M. Quetelet, secretary of the Academy of Sciences at Brussels, comprise a series of highly valuable results and suggestions.

Starting with the observations of 1838, Mr. Birt shews that the hollow or trough of an atmospheric wave was vertical over Brussels at three A. M. on one of the recorded days, and over London at eleven A. M. on the same day, having been eight hours travelling westerly from one to the other, at a rate of nearly thirteen miles an hour. For want of other stations beyond the two extremities, it was not possible at that time to determine the length of the wave. Afterwards a line traced from Markree in Ireland, passing through London, Brussels, and Geneva, to Gibraltar, shewed a marked progressive relationship among them. It was observed, however, that at times the Irish curve separated itself from the general law, as though disturbed by some cross wave; at others a sudden rise or 'dislocation' appeared at Gibraltar, assignable, as was supposed, to the 'immense radiation' of the African continent. In December of the same year, so regular and systematic was the rise of the mercury along this line of stations, that, in Sir J. Herschel's words, 'to take in an effect of this nature, we must enlarge our conception of an atmospheric wave till it approaches in some degree, in the extent of its sweep and the majestic regularity of its progress, to those of the tide-waves of the ocean.'

A correspondence has also been noticed between Oxford and London, Geneva and Turin, Cadiz and Gibraltar. On one of the days in September 'a perfectly well-marked and definite atmospheric wave passed over the British isles and the west of Europe, the crest of the wave having a direction nearly N. N. E. and S. S. W., and its progress being from W. N. W. to E. S. E. The half-breadth of the wave, which occupied twenty-six hours in its passage, covered a space extending from Oxford in a direction perpendicular to that of the west, to a point not far from Halle in Wirtemberg, which gives, by rough measurement on a map, about 540 miles, and a velocity of about 21 miles per hour.'

The general results obtained from the discussion of the observations at that time were the having traced 'distinct barometric waves of many hundreds of miles in breadth over the whole extent of Europe—that is to say, at least over an area having Markree in Ireland, Cadiz in Spain, Parma in Italy, and Kremsmünster in Austria for its angular points. Not only the breadth but the direction of the front, and the velocity of progress of such waves, were clearly made out.'

In June of 1836 a wave presented itself which was from nine to ten hours in passing Markree to Halifax, in Nova Scotia—a fact which led to further observations on both sides the Atlantic. A comparison of the Greenwich observations for 1840-41 with those made at Toronto, in the same period, shewed that a general resemblance existed between the two: at each place the mercury had risen above thirty inches in every month. So clearly was the result established, that by taking a maximum of the one it was possible to predicate the maximum of the other at an interval of a few days, the difference of time being the time required for the passage of the wave. It further appears on strict examination of the readings obtained at Greenwich, that 'twice in each month the barometer passes a maximum above, or but very slightly depressed below thirty inches, but more usually above.'

The interval between the occurrence and recurrence of the highest and lowest readings is occasionally protracted beyond what at first sight may appear to be the regular period. Thus between the January and February minima of 1841, 36 days transpired; and 31 days 16 hours between the September and October maxima of the same year. Assuming that the maxima are crests of waves, 'sixteen waves traversed England, having a mean interval between their crests of 14 days 5 hours,' in the seven months between February and October. In all of these a certain symmetry is apparent, and by a little scrutiny the type or normal wave for different localities in the same country, may be found. Where irregularities occur, they are chiefly due to geographical position: the more the surface of a country is broken up by hills or mountains the less of uniformity will there be in the atmospheric currents. Besides which, any one system of waves is exposed to interference from different systems, or other physical causes. It is obvious that trustworthy facts can only be eliminated by attention to these disturbing causes. A few data, for given localities, and lines of greatest symmetry, have already been established. In November 1842, one of the latter extended from Dublin to Birmingham, Brussels, and Munich. In 1845 its course was along the southern shores of England.

With regard to the direction of waves, this is deduced from observation of the times when the maxima pass stations widely distant from each other, the order varying as the 'axis of translation' varies. Taking Greenwich, Prague, and Munich—waves from W. N. W. pass Greenwich first, and the other two places almost simultaneously, a considerable time afterwards: these exhibit, therefore, simultaneous maxima.' From S. S. W. Greenwich and Munich, are simultaneous: S. by W. the order is Munich, Greenwich Prague; and S. S. E. Munich, Prague, and Greenwich. The line of direction for Central Europe is from the coasts of Belgium, the Netherlands, and North Germany, to the frontiers of Austria, where it converges at the extremity of the Tyrolese Alps, from whence it is prolonged, and rises to the Black Sea beyond Moscow. This distance, according to M. Quetelet, is travelled over in two days, at the rate of from six to ten leagues an hour—being more rapid in proportion as the surface of the land is free from inequalities.

The system for European Russia is comprised in Dorpat, Petersburg, and Kasan. The observations in the first two accord well together, while Kasan appears to be connected also with the system of the Ural, and forms a meeting point for the two sets of curves. In Russian Asia the stations as yet are few, but the waves are found to traverse the great plains of the north from Pekin to Nertchinsk with marked regularity. It is worth notice, that although no close or evident relation exists among these localities, there are yet points of resemblance; for on counting the maxima and minima of any two curves for three months, there is found nearly always the same number. Parma and Pekin, so widely separated, show a remarkable similarity on being compared.

As though to render the analogy with tide waves of the ocean more complete, certain 'nodal points' have been ascertained, round which the atmospheric waves and the winds revolve. After long-continued observation of the barometer at Brussels, the steadiness and gradual change in the height of the mercury, that city has been found to be a node. Greenwich is also a node, as regards the wind, for there, as stated by Mr. Airy, the vane 'makes five revolutions per annum in one uniform direction.' On the other hand, Edinburgh is conspicuous 'for inequalities and abrupt fluctuations;' Turin is affected by the nearness of the Alps; Cadiz, Gibraltar, and Tangier are subject to an anomalous rise and fall of the mercury between midnight and sunrise, which interferes with and often counteracts and overcomes the regular tendency to depression in that interval—a peculiarity which is probably owing to the proximity of the great radiating surface of the African deserts.'

The troughs of the waves represent parallel lines of least pressure; consequently in them the molecular movement is strongest, and a lateral movement is induced towards them. The wind would be comparatively feeble at the crest, and by the passage of the crest, over any given place the current of the foremost trough would be replaced by that of the hindmost, and in this way is explained the calm which occurs, and the sudden reversal of wind during the passing of an atmospheric wave, and the fact

that the force of the wind increases as the deeper hollow of the wave advances.

Among the phenomena under notice there is one singularly remarkable—that known as the great November wave. From some cause as yet unexplained, a marked symmetrical wave occurs in this particular month year after year. In November 1842 a wave was fifteen days in passing over London, the transit of the crest occured on the 18th; in 1843 it was on the 14th, and almost identical in contour with that of the former year. It came earlier—October 27—in 1844; and in 1845 again on November 14th; in 1846 on the 9th, but with some deviation from what had been before observed—the curve, though of the average length, being very flat, owing to the steadiness of the mercurial column through the entire period, with one exception, at more than thirty inches. At the same time subordinate waves of interference were clearly indicated, coming from the N. W. and S. W., and meeting and crossing at Brussels—another verification of its nodal position. In this November wave Mr. Birt considers that we have the type of the barometric oscillations for that period of the year. The rise and fall of the wave are so nearly alike; they occur in the two weeks nearest the middle of the month; the undulations which disturb the symmetry of outline are always five in number; at the setting in of the wave the barometer is low—under twenty-nine inches. There are one or two exceptions to the rule here specified, but not sufficient to invalidate it. Eleven years' observations shew the crest to have passed within *five* days of the middle of the month, while from a series continued through fifteen years, it appears that a remarkable depression of the mercury occurs on the 28th. 'When dealing with undulations of such extent, it is by no means a visionary speculation to consider the possibility of tracing them over the *whole* of our globe; nay, perhaps of obtaining evidence of their performing, tide-like, two or more revolutions round its surface.'

That there are tides in the atmosphere is pretty clearly determined by the meteorological observations taken at St Helena during several years. The conclusion has been come to from the fact, that on that island the mercury is higher every day when the moon is on the meridian above or below the pole, than when she is six hours distant from the meridian on either side. The effect is minute, but not, on that account, the less real.

As to the origin of atmospheric waves, it is admitted that the heated air of the equatorial regions, after its ascent and cooling, descends in the polar regions. The dispersion of this cooled air may give rise to the aërial waves; their propagation would accompany the currents from the pole to the equator, and in our hemisphere from north to south. Or the cooled air may diffuse itself immediately around the pole, and if it form, as it were, a complete canopy, the waves would be continuous under every longitude, and passing any given station might be traced all round the globe. But contrariwise, should the diffusion of the cooled air take place at some distance from the pole, instead of forming a continuous cycle, and propagating itself by extension, it will be a sector having its angle more or less open. The sectors, by penetrating or inoculating each other, would produce as a result a rapid series of undulations at the points of contact.

According to M. Quetelet, the latter is the most probable explanation of the phenomena; the observations indicate rather several distinct waves than one continous. As before observed, the question is complicated by the influence which a secondary system of waves exerts on the principal one; lessening, or at times nullifying, the maximum. Yet there seems no reason to doubt that certain undulations, continuous but irregular, do cycle round the pole. In Northen Europe and Siberia a system extends from north to south, the waves of which may be regarded as sectors of different arcs not having precisely the same centres, nor yet at the same instant the same radii. From the juxtaposition of these partial waves there will result a general undulation, making the entire circuit of the pole in every latitude, advancing in certain places towards the south, in others retreating towards the north, whereby the stations in the cycle would be continually recording a succession of waves.

FRIENDS' INTELLIGENCER.

PHILADELPHIA, FIRST MONTH 24, 1852.

☞ The *Publisher*, Wm. D. Parrish, would remind the subscribers to the Intelligencer of the importance of punctuality in the payment of their subscriptions. The expense of publishing rests exclusively upon him, and unless subscriptions are promptly paid, the advances of money required for its maintenance is sometimes burdensome. Bills will be sent to those in arrears.

Any communications pertaining to the *editorial* department may be sent to him post paid, and will be handed over to the *Editors*.

The Season.—The present winter has thus far been one of the severest known for many years. Perhaps none has equalled it since that of 1831–32. Should the extreme cold continue as it has commenced, it may yet be rendered even more memorable than the reign of frost which characterized that long interval from the formation to the breaking up of the old fashioned winter we have mentioned.

The comparative mildness of this season experienced throughout so many years, has led us to neglect those measures of precaution which a wise foresight should always adopt to prepare for the stern embrace of a truly rigorous visitation like the present. In our city, forgetfulness in this respect has been punished by disastrous conflagration and loss of life. At the moment when most needed, the fire plugs were found frozen, and the supply of water cut off, which in all probability would have sufficed to prevent an extensive destruction of property, and the awful catastrophe whereby several of our citizens were consigned to a most dreadful death.

It cannot be expected that the prudence of the individual has much exceeded the collective wisdom of his rulers. If the latter be the measure by which we are to estimate the providence of the mass, it is to be presumed that many have been taken in a state but little prepared to wrestle with the privations and sufferings of a severe and protracted season. Were it not for the necessity laid upon us to provide for the comfort and health of the body as well as its sustenance, we should want a most wholsome incentive to activity, and fail to experience the pleasing reward of well directed industry. The greater the stimulus to successful exertion, the more fitted will be both body and mind for high and noble aims. The same dispensation, however, that brings, in the conscious feeling of preparation, a positive pleasure to the providential, inflicts upon the idle and the careless a severe and sometimes a salutary punishment. Cold and hunger come, like an armed man to his dwelling, and will take no denial. They are terrible ministers to scourge him for his wasted opportunities, but they may also operate as wholesome correctives when their visitations are remembered and embraced as solemn and instructive warnings.

As a general rule, we have a right to suppose, that all who will, can work to advantage in a community and a country like ours. We must infer, that with free institutions, political equality and a boundless domain, each man can improve the capabilities placed at his command, to secure their highest return to himself. As a consequence, that, in general, his failure or his success may, to a considerable degree, be an index of his industry, his ability and his prudence. Nevertheless, exceptions to such a rule must be, and are numerous and sometimes very great. And moreover, although in the whole of his career, an individual may be judged correctly by the circumstances around him, it would yet be very unsafe to predicate upon his present situation, a conclusion as to his qualities moral or mental.

At such a period as the present, it could not be expected that every usually provident man should be fully armed for the extraordinary encounters which await him. Even the congregated wisdom of the guardians of the public interests, has met with a rebuke and been taught a lesson by suffering. On the abstract ground then, of ordinary justice, a great allowance must be made for the unusual hardships of a season against which the precautions of the wisest have not been availing.

Notwithstanding the fact, however, that all are permitted to assume an equal footing before the law, the circumstances which surround us added to the diverse capacities we possess, must make a very unequal distribution of worldly advantages and means. In the inscrutable dispensations of Providence also, the strong are stricken down and the weak are left destitute of outward support. The widow is suddenly called on to exhaust her feeble energies in unaccustomed labor for

the sustenance of her bereaved offspring—the orphan to measure his puny strength with the practised and untiring efforts of matured skill and industry for a share of those bounties which a beneficent Creator has bestowed profusely, but which man in his selfish spirit has monopolized—and worse than all, both are but too often required to supply the waste and wantonness of intemperance and vice. A wide field is therefore constantly at hand for the exercise of benevolence, and at no period more inviting to the philanthropist than amid the rigors of a winter like the present.

In the country and in sparsely populated villages, the appeals of misery are direct and immediate—its wants are cared for because its necessities are easily understood. But in large cities, it presents itself in masses, from which it is difficult to separate the imposture of the vicious from the distress of the deserving. Hence the origin of the numerous charitable societies for distinguishing and alleviating the sufferings of the latter. Hence the variety of form which philanthropy assumes in its endeavors to reach the unfortunate, but to withhold the aid it designs for the worthy, from imposture and guilt. The most obvious mode by which it may succeed would appear at once to be that of supplying nutriment, clothing and fuel immediately to those in want of them—and accordingly, the most effective agents are soup societies, fuel associations, and those for the manufacture and distribution of apparel. These are highly efficacious, and less liable to abuse than some other charitable institutions. Another class of societies for the employment of the poor at a barely living compensation, is also admirably calculated to relieve actual necessity without being liable to imposition. It has the additional merit of fostering industrious habits and infusing into the objects of its benevolence the consciousness that they earn and are entitled to the pittance they receive.

There are, in this city, numbers of such associations. They have been actively engaged thus far, in the humane task of alleviating the sufferings of the distressed. But in many, perhaps most instances, their means are nearly exhausted, in consequence of the unusual severity of the season and the increased demands upon their bounty. Is it not then the duty of every Christian to step forward, and as far as his abilities will enable him, furnish that aid to his brethren and and sisters which even justice would require, but which the darling attribute of mercy must, at such a juncture, imperatively demand. He, who, in a winter like this, does not remember the poor, can scarcely lay claim to be the follower of a meek and lowly Saviour, who in in his outward advent never refused to succor the distressed, and in his inward manifestation redeems the soul from all selfishness and pride.

In the Editorial remarks of last week, we omitted to state, that the writer for the time being, assumes no responsibility in the disposition of such contributions as may be sent for insertion. If there be a doubt as to their admissibility, they are to be judged of by the association. The acting Editor is too much occupied to give the necessary attention to this department.

FRIENDS' CENTRAL SCHOOL.

The present term will expire on the 31st inst. The next will commence on the 1st of the Second month.

1st mo. 7th, 1852.

For Friends' Weekly Intelligencer.

An unusual sight now presented from our wharves, that of our noble Delaware being fast locked in the icy embrace of a real old fashioned winter, having elicited much discussion as to how many years it has been since the like has occurred, I herewith furnish the following extracts from my "notes on the weather" including other periods than the "*last time;* going to show the frequency of the occurrence in former years:

Delaware river closed opposite the city	1 mo. 3,	1835
do. do. (third time same season)	3 mo. 4,	1836
do. do.	1 mo. 2,	1837
do. do.	2 mo. 17,	1838
do. do.	12 mo. 27,	1839
do. do.	1 mo. 17,	1840
do. do.	1 mo. 4,	1841
not closed winter of 1841 & '42		
do. do. to Bar opposite Spruce St.	1 mo. 10,	1843
do. do. . Fairly closed	2 mo. 9,	"
do. as far down as Callowhill St.	1 mo. 26,	1844
do. closed for several hours	12 mo. 21,	1845
do. do. . Fairly closed	12 mo. 23,	1845

Not closed since last date, except some distance up the river, until the present time.

Philadelphia, 1 mo. 20, 1852 J. M E.

Busy not thyself in searching into other men's lives; the errors of thine own are more than thou canst answer for. It more concerns thee to mend one fault in thyself, than to find out a thousand in others.

"Do Justly."—A religion that does not constrain a man to pay his just debts, when he has the ability to do it, is worth nothing. That he can escape his liabilities through some defect of human law, will never justify him at the bar of conscience and God, for defrauding others of their due.

INTRIGUES OF THE POPE FOR THE SUPPRESSION OF CIVIL LIBERTY.

What we have at present to say, we address solely to those who are friends of religious freedom. If there are any in this country who place religious persecution among the duties of a government, we shall not argue with them now. If the present age has in any particular more than another, the advantage of the ages which preceded it, it is in the progress which men have made in bearing with the free expression of each other's religious opinions, and in abstaining from the attempt to put down those who differ with them by the penalties of law. If the country in which we live may boast of any honourable pre-eminence over others, it consists in no peculiarity more than this, that it gives to no religious persuasion the preference over the other, but leaves to all men, untouched, the natural right to form and express the religious opinions and practice the modes of worship which seem to them good, never interfering itself, and rigidly protecting them against each other. We speak now only to those, whether Catholics or Protestants, who are satisfied with the universal liberty of religion to which the American government leaves its citizens.

The discussion awakened by the attack which a Catholic dignitary of this city lately made upon one whose offence was, that he commended the government of his own country for boldly and successfully resisting, in former times, the attempt of the Pope to wrest from the nation its religious liberties, induces us to publish a recent Allocution or Address of the present Pope to his Cardinals in their assembly. It contains, as our readers will perceive, some matters which are not unworthy of consideration.

In the exordium, Pope Pius speaks of the afflictions suffered of late by the church of which he is the head, in the "renowned Spanish nation," particularly of "the cruel devastation which harrassed and persecuted the Catholic religion, the ministers of the altar, and the ecclesiastics generally." We do not stop to inquire whether the persecutions in Spain, to which he refers, were not, in most cases, merely such acts of the government as deprived the ecclesiastics of the power of tyrannizing over the minds of the people. It is enough that Pope Pius admits, that to be harrassed and persecuted for religion's sake, is a very uncomfortable and disagreeable thing—that he even calls it cruel, an affliction, an ever to be deplored evil. We were almost sure, when we read this, that the Pope was on our side, and that he was disposed to admit the blessings of that state of society in which nobody persecutes and nobody is persecuted, but all modes of faith rest upon the equal basis of liberty.

It turns out, however, upon reading a little further, that this persecution, of which he speaks, is only disagreeable to him when exercised upon persons of his own persuasion. To harrass his church is cruel, to harrass another man's church is perfectly right, besides being very pleasant to those who act in the capacity of persecutors. He has accordingly, as he informs his Cardinals, entered into a convention or treaty with Spain, by virtue of which, the former prerogatives of the ecclesiastics who pay obedience to the See of Rome are restored, their old authority revived, and religious persecution stipulated for by a solemn compact. He says:

"But we now signify to you that our cares bestowed on the settlement of other sacred and ecclesiastical affairs of this same kingdom, have, chiefly from the zealous good will of our most dear daughter in Christ for the advancement of religion, not terminated unsuccessfully. For, after a long and laborious negotiation, a convention has been entered upon between us and the Catholic Queen, which chosen plenipotentiaries on either side have signed, in our names, indeed the venerable brother, the Archbishop of Thessalonica, but in the name of the Queen, our beloved and noble son, the Cavalier Emmanuel Bertran de Lis, minister of her Majesty. And this convention, which has now been ratified by the Queen aforesaid, and by ourselves after hearing the counsel of the congregation of our venerable brother cardinals of the holy Roman church, placed over special ecclesiastical affairs, we have

commanded to be laid before you, together with our apostolical letters, by which we have confirmed the convention itself, so that you may be able more clearly and fully to understand the whole.

"This, indeed, we have had, above all things, at heart—most anxiously to consult for the security of our most holy religion, and the spiritual affairs of the church. And, therefore, you will perceive that the Catholic religion, with all its rights which it enjoys by its divine institution, and the sanction of the sacred canons, is so singly as heretofore to flourish and be dominant in that kingdom, that every other worship is altogether removed and interdicted."

The other modes of worship of which the Pope speaks, cannot be altogether removed and interdicted without severe penalties. The offensive worshipper must be stripped of his property, by virtue of a treaty made at the instance of that Pope who, in the very document makes so loud an outcry about the loss of the property of his own church. Exile, destitution, death, are among the means by which all other modes of worship but the Roman Catholic have formerly been removed and interdicted in Spain, and if this treaty is to be strictly fulfilled, we do not see why they are not to be rivived.

The Pope, it seems, if we may judge from the convention he has made with Spain, has no particular objection to public schools, provided that they are under the control of the priests. In that convention he has stipulated not only that the doctrine of his church shall be taught in the colleges, but that "the bishops shall sedulously watch over even the public schools, and freely exercise over them the duties of their office."

By the terms of the convention the priests of Spain are allowed to deal directly with those who insinuate heretical doctrines and distribute heretical books. The *Allocution* says:

"It has also been decreed that all the magistrates of the kingdom shall use their endeavours to ensure that due honour, observance and obedience shall be shown to the ecclesiastical authority and dignity. To this it is added that the most illustrious Queen and her government promise to give all assistance by their powerful patronage and protection to the aforesaid bishops, when in the exercise of their pastoral office, they shall have occasion to restrain the wickedness and audacity of those men principally, who impiously seek to pervert the minds of the faithful and corrupt their morals, and when they shall have to *scatter and drive away* from the flock the detestable and dire plague and ruinous evil of pernicious books."

Does this point to the renewal of the Inquisition with its ancient horrors?

The cares of the Holy Father for the confirmation of the stability of his church by persecution, have not, it seems, been confined to Spain. He has, he says, concluded an arrangement of a somewhat similar nature with the Grand Duke of Tuscany, who has now arrived at that time of life, when men in his station generally begin to think of concluding a life of dissipation by an old age of devotion. By the terms of this arrangement with Tuscany, the Pope says:

"It is decreed that the bishops shall have all liberty in fulfilling all those things which pertain to the sacred ministry, and may exercise censorship over writings and works which treat of things relating to religion; that they may freely apply their episcopal authority to keep away the faithful from any bad reading whatsoever, mischievous whether to faith or morals."

Here is an entire suppression of religious liberty, as it expresses itself through the public press.

To sum up the matter in a few words, the Pope, wherever he finds an opportunity, wherever he finds the government in the hands of bigots of his own faith, is intriguing for the extinction of the rising germs of religious liberty. Whenever a spark of independent thought shows itself, it is to be trodden out by the iron heel of the law.

It is most unfortunate for the Roman Catholic Church that its head is a temporal prince as well as a spiritual hierarch. This corrupts the church; it makes him a persecutor, and the priests of his faith the apologists of religious persecution. What he maintains to be the duty of the government at Rome he must hold to be the duty of governments elsewhere, and the Allocution we this day publish, shows with what perseverance he insists on the obligation of intolerance and persecution wherever, in any country, he can obtain the ear of those who hold the sovereign power.—*Ev. Post.*

MERINO SHEEP SPECULATION.

The Merino Sheep speculation was one of the most extraordinary bubbles that ever was known in America. It had its origin in the year 1815, soon after the treaty of Ghent, and at a time when thousands of our people were actually under the influence of a manufacturing mania.

In the summer of that year, a gentleman of Boston imported some half dozen sheep, from one of the southern provinces of Spain, whose fleeces were of the finest texture, as it was said, and such undoubtedly was the fact, though the sheep were so thoroughly and completely imbedded in tar, and every other offensive article, that it would have been very difficult to prove it. But the offensive appearance of the sheep seemed to imbue them with a mysterious value, that rendered them doubly attractive. It was said that the introduction of these sheep to the United States would enable our manufactories, then in their infancy, to produce broadcloths and other woolen fabrics, of a texture that would compete with England and Europe. Mr. Clay was consulted in reference to the sheep, and he at once decided that they were exactly the animals that were wanted.

The first merino sheep sold, if I recollect right, for fifty dollars the head. They cost a dollar in Andalusia! The speculation was too profitable to stop here; and, before a long period had elapsed a small fleet sailed on a sheep speculation to the Mediterranean.

By the end of the year 1816, there probably were one thousand merino sheep in the Union; and they had advanced to twelve hundred dollars the head.

Before the autumn of that year had passed away, they sold for fifteen hundred dollars a head; a lusty and good looking buck was worth two thousand!

In New England, in the year 1817, the speculation, in consequence of the surplus importation, began to decline; but it steadily and rapidly advanced throughout the Western country. Kentucky, in consequence of the influence of Mr. Clay's opinions, was especially benefited.

In the month of August, 1817, I saw a merino buck and ewe sold for eight thousand dollars; and even that seemed a very small price for the animals. They were purchased by a Mr. Samuel Long, a house builder and contractor, who fancied he had, by the transaction, secured an immense fortune.

This Mr. Long was actually rabid with the merino fever; and in proof of it, it is only necessary to relate a single anecdote. There resided in Lexington—and not more than a mile distant from Mr. Clay's villa at Ashland—a wealthy gentleman, named Samuel Trotter, who was, in fact, the money king of Kentucky, and who, to a very great extent, controlled the Branch of the Bank of the United States. He had two sheep, a buck and a ewe, and Long was very anxious to possess them.

Long often bantered Trotter for the sheep, without success; but one day the latter said to the former, "if you will build me such a house, on a certain lot of land, as I shall describe, you shall have the merinos."

"Draw your plans," said Long, "and let me see them." The thing was done, and Long eagerly engaged in the enterprise. He built for Trotter a four story brick house, about fifty by seventy feet, on the middle of an acre of land, finished it in the most approved modern style, and enclosed it with a costly fence, and handed it over to Trotter for the two merino sheep! The establishment must have cost fifteen thousand dollars.

Months before the establishment was completed the price of merinos declined gradually; and six months had not passed away, before they would not command twenty dollars!

Mr. Long held on to them till they had reached the par value of any other sheep, when he killed them, made a barbecue, called all his friends to the feast, and whilst the "goblet went its giddy rounds," like the ruined Venetian, he thanked God that he was not worth a ducat! He was ruined, and soon after died of a broken heart.—*New York Sunday Atlas.*

SIR H. HUNTLEY'S SEVEN YEARS' SERVICE ON THE SLAVE COAST OF WESTERN AFRICA.

Continued.

The Wesleyan Missionary Society, with that amiable absurdity which characterizes philanthropic exertions in Africa, attempted to form a Foolah settlement at McCarthy's Island: a large sum of money was expended in building a village, where no doubt warming-pans and every other necessary of existence would have been provided. The whole affair was of course a complete failure. Philanthropists must learn that if really anxious to benefit a people, the good must be done in acordance with their feelings and prejudices, and habits; and that, although the not instantly adopting a taste for tea, crumpets, and excellent exhortations, is a proof of utter barbarism, yet that it is impossible to inoculate a people with a taste for all these necessaries and comforts of civilized life at once.

A party of Foolah warriors posted themselves last year on the banks of the river opposite our settlement of McCarthy's Island, and exacted tribute from all persons coming to trade. When the chief was remonstrated with, he declared his inability to resist the Foolahs; on this occasion, however, the excellent chief, anxious to commit a little additional extortion on his subjects and neighbors, had invited them. They were merely a party of "Free Lances" in his pay. But as he had a perfect right to levy what taxes he pleased, and extort at his own sweet pleasure, our merchants had nothing for it but to "grin and bear." Extortion, fortunately, generally proves a two-edged sword. The chief did not find it answer as a financial speculation, and the roads were soon again opened.

The boast of the Foolahs, that they never are made slaves, has been also frequently made to us by Mandingoes, Joliffes, and other Moham-

medan tribes. The boast is at least true so far, that they are scarcely ever sold into foreign slavery. Slaves who call themselves Mandingoes, &c., are constantly to be met with in America and the West Indies; but they generally are not really members of those tribes, but merely have been domestic slaves among them, and have been sold as a punishment for crime.

Most of the Mohammedan tribes are divided by themselves into two classes—the Marabouts live in villages by themselves, and seem to acknowledge that the absolute property in the soil belongs to the Sonnachees. The domestic servants at our settlements are frequently Marabouts.

Shortly after our first arrival in Africa, some years since, we received a rather unpleasant proof of the peculiar ideas of politeness and the latitudinarianism of some professed Mohammedans. We had gone over with a friend from Sierra Leone to the Bullon shore; our friend had brought over dinner, in which were included ham, champagne, and other enormities. The Almamy of the Bullon—the title of Almamy is said to be the corruption of Emir-el-Moumeyn, Prince of the Faithful—sent mutton and rice, the latter very white and admirably boiled. We clubbed our dinners. The fullest justice was done by all parties. The ham was in particular request, the champagne was duly appreciated. On our right was seated a very wealthy native merchant; he had a capital appetite, which he did not disgrace, as he weighed some twenty stone. Having rather amazed us by his performance, he at length ceased. and drawing up wind, *ab imo pectore*, poured the whole volume in our face. We had fortunately heard of the gentle custom, and were aware that it was only a ventose expression of approval; *cofectus cibo*, he was eructating his approbation. This method of puffing one's host is unfortunately general.

It is difficult to understand what is really the amount of power possessed by the king or chief of an African tribe over his people. A great deal depends on his personal character; but in general amongst the Mohammedan tribes, his power appears to be very limited. He appears to be obliged to consult his "head men" on every occasion of the least importance; and as they do not seem to have the least idea of the value of time, endless pahlavers are the usual result. It is curious how widely spread is this word "pahlaver;" in Africa it appears to have the same meaning as in North America, any solemn council or debate—a long jaw on any subject; in Persia, as in Ireland, it is to apply "soft sawdur to human natur."

No matter what be the point to be settled, the chief declares that he cannot act without his "head men;" and both he and his people constantly assure us, "White king can do what he like, but black king can do nothing without his head men." Not a very accurate idea of her majesty's power at home.

At almost every "pahlaver" at which we have been present, there was some old gentleman, the leader of the opposition, who opposed the professed views or wishes of the chief; and it has so happened, by a curious coincidence with things at home, always on conservative principles, opposing some dangerous innovation, which he feared was likely to gain ground. He always appeared to be a staunch assertor of the rights of the people, dwelling on the point that the king could not act without their consent. Whether his being in opposition had any tendency to liberalize his views as to the subject's rights, we are unable to decide.

During the last year, the senior medical officer at Bathurst endeavored to introduce vaccination into the native countries on the Gambia; and the governor of the Gambia, Mr. M'Donnell, who takes the warmest interest in everything likely to be of benefit to the natives, promoted his views in every way, sending messages and presents to the neighboring chiefs, &c. The countries immediately adjoining our settlement of Bathurst are Combo and Barra. The King of Barra was at once graciously pleased to declare his belief that what white man proposed must be good, and, having consulted with his council, sent an invitation to the surgeon. On arriving at his town, we were led to the royal palace, consisting of a great number of separate huts or apartments, some united by covered passages. In one of these, the whole royal family was drawn up to receive us—his majesty having an innumerable number of wives. We had little ebony people of all sizes, wondering at us with all their might, from their mothers' arms; and their little black souls gazing awe-struck through dilated eyes, at our ugly white faces; or toddling about us, and when we attempted to touch them running screaming away, half fun, half fright.

When introduced to his majesty we found, as we had expected, that there was no opposition, either on his part or on that of his constitutional advisers, but that the mammas were still fearful of entrusting their little ebon darlings to our tender mercies; our medico therefore vaccinated himself from one of the children we had brought with us. As it was clear that the operation was not a very formidable one, one mamma after another came forward, and at length it became a good-humored contest which little bit of black humanity should be cut first. Older young ladies, too, with a commendable anxiety for their beauty, emulously offered their arms, and there was full employ for our medico.

We had crossed over early in the morning from Bathurst to the main land, a pull of about three miles; a ride afterwards of ten or twelve miles under a burning African sun—the pressure of the people about us—the noise of the children, for black babies or white will scream—the heat and the hogo were at length almost too much, and after some hours work he had to give up. He gave a lancet to the alcade of the town; explained the whole affair, as well as he could, to him and the priests; made the alcalde vaccinate some children; endeavored to impress on him and the priests what important persons it would make them, and how much influence it would give them if they were to introduce generally the "great medicine" of the English, which they had discovered and had taught the French, (who are perfectly well known at the Gambia,) and all other people.

Here we had no opposition to encounter. In our next attempt we were less successful. His majesty of Combo had expressed himself doubtfully. The governor of the Gambia, anxious to overcome the people's prejudices if possible, determined to be himself of our party. On our arrival at the king's town a solemn pahlaver was held under the great council tree. Immediately outside an African town, some mighty tree which would dwarf our noblest oaks is chosen for the council place. The governor opened the conference, and said all he could on the subject. The king declared himself quite convinced, and said he should wish his own children to be marked. The leader of the opposition arose; he was a hard-featured old gentleman, eminent, it would appear, for sanctity and sourness. So far as the arguments were concerned, we might have fancied ourselves in some highly respectable assembly at home; he reminded the king that he could do nothing without his head men. Our coming was suspicious; what did we want to gain? their ancestors had never done it; it was not in their book; it was certainly a new thing; it might be bad. The assembly was evidently moved; the members clearly thought much of their ancestors' wisdom, and still more of their own right of opposition. The governor bared his arm and had himself vaccinated, to prove that there was at least nothing injurious. Our surgeon, who seemed to look on himself somewhat in the light of those scientific rabbits which are carried about for physiological experiments, cut himself again. A younger member of the opposition dropped the wisdom of our ancestors, and made an objection sufficiently practical; he said that, whilst small pox had been raging and killing such multitudes in all the neighboring countries for two or three previous years, their town had remained quite free from it, and that they ought not to risk introducing it. We should mention that inoculation is universal amongst the Mohammedan Africans. We pointed out the difference between it and vaccination. We had apparently the best of the argument, but were "non-plussed" by being told that, whilst we were debating, the mothers had settled the question by carrying off all the children into the bush. It was too true; not a pickaninny was to be seen or had for love or money.

His majesty graciously expressed the highest friendship for us, his entire approval; but what could he do? The ladies were against him, and had practically decided the point. He might have prevailed over his council, but confessed he had no chance against his wives. The old orator was a saint; the young orator was a dandy; which had most influence in deciding the ladies of Combo against us we are unable to say. We had a ride of some thirty miles to no purpose, not a pleasant thing in Africa, where from one's curry to one's temper, all things are equally hot. We were, however, partly recompensed some days afterwards, on the king bringing in his own family into Bathurst to be vaccinated.

We subsequently visited several towns in the interior for the purpose of spreading vaccination. In nearly all, the people brought their children willingly, on our object being explained. The opposition was certainly not more than would be to any new and untried thing in any European country, and much less than there was to it at first in England. But though we did all in our power to enlist the priests in the cause, we do not believe that they will have the perseverance and foresight necessary to keep it up.

(To be continued)

A well is now being excavated in Jackson county, Florida, which, in the number of *strata* already passed through, is nearly as notable as the one so famous near Genoa. The first twenty or thirty feet is composed of sandy soil, common to that region. This is succeeded for about an equal distance by a black, rich, vegetable loam. Beneath the loam is a deposite of trunks and branches of trees, in a semi-petrified state, and still further down, at the depth of sixty-five feet, is struck a vein of metallic ore. A specimen of the ore is in possession of the editor of the Floridian Whig, who says that it is very pure, and has the appearance of silver.

EVANS' FIRE AND THIEF PROOF SAFES. THE LATE FIRE. — A CARD. We take great pleasure in stating we had one of OLIVER EVANS' FIRE PROOF SAFES in our store during the great Fire at Hart's Buildings, which when taken from the ruins and opened, was found to have preserved our Books, Papers, &c. entirely UNINJURED.

Gutz & Buck.

☞ EVANS' FIRE AND THIEF PROOF SAFES of all sizes and prices.

ALSO—In store and for sale:

SEAL AND LETTER COPYING PRESSES.

TRUCKS for moving Boxes, Bales, &c., in Stores.

DRUGGISTS' PRESSES, with Cylinders and Pans.

PACKING LEVERS, for Dry Goods Stores, &c.

PORTABLE SHOWER BATHS, of new construction, suitable for warm and cold water.

REFRIGERATOR for keeping Meats, Butter, Milk, &c., in dining room, hall, or cellar.

WATER FILTERS, for purifying muddy or bad water, caused by rains, limestone, marl, or other causes.

OLIVER EVANS,

61 S. Second 1 door below Chesnut street.

jan. 8—tf.

BRICKS.—The Subscribers are prepared to furnish superior Pressed and other Bricks, at reasonable prices to Builders and others, at their yard to the south of the brick house below South street, between Schuylkill Second and Third sts.

N. B. particular attention paid to the assorting of the Pressed Bricks. WM. WEBSTER & SON.

jan 8—1y.

TEACHERS WANTED.—The situation of Principal Teacher in the Boys department of Friends Central School of this city will be vacant on the First of Second month next.

It is desirable that it be filled by an individual not only competent in literary acquirements, but a *consistent Friend*, possessed of the requisite qualifications for conducting a well regulated *Friends'* school.

Applications may be made in writing, addressed to the "Visiting Committee," and left with

William Wharton, No. 130 Spruce Street.
Anthony P. Morris, South side of Arch, ab. 9th.
Catharine H. Truman, 102 North 7th "
Ann A. Townsend, No. 254 North 4th "

or with JACOB M. ELLIS, Clerk of Vis. Com.

11th mo. 29—tf.

LIFE INSURANCE.—THE GIRARD LIFE INSURANCE, ANNUITY AND TRUST COMPANY OF PHILADELPHIA.—Office, No. 132 Chesnut street, the first door east of the Custom House—Charter Perpetual—Capital $300,000, paid in and invested, which together with the accumulated premium Fund, afford ample security to the insured—continue to make Insurance on Lives on the most favorable terms.

They act as Executors, Trustees, or Guardians under last Wills and Testaments.

The Company add a BONUS periodically to the Insurances for Life. The first Bonus was appropriated in December, 1844, and the second Bonus in December 1849, amounting to an average of more than sixty per cent. on the Premiums paid. The following are a few examples:

Policy,	Sum originally insured.	Bonuses or additions.	Amount of Policy and bonuses payable at the decease of the party—to be increased by future additions.
No. 58,	$1000	$262 50	$1,262 50
No. 89,	2500	626 25	3,156 25
No. 276,	2000	475 00	2,475 00
No. 338,	5000	1,187 50	6,187 50
&c.	&c.	&c.	&c.

Pamphlets containing table of rates and explanations, forms of application, and further information, can be had at the Office.

THOMAS RIDGWAY, President.
11mo. 15—6m. JOHN F. JAMES, Actuary.

NOTICE REMOVAL.—Charles C. Edwards informs his friends that he has removed his Flour Store to No. 395 Market St. below Eleventh, immediately opposite the Philadelphia, Wilmington and Baltimore Railroad Depot. The finest brands of Family Flour constantly on hand at the lowest price for cash.

SPRING GARDEN DRY GOODS STORE FOR FRIENDS.—JOHN J. LYTLE, S. E. cor. 7th & Spring Garden Sts., desires to call the particular attention of Friends to his large stock of Fall Goods. Having been several years in business and become fully acquainted with the tastes of Friends, it is his desire to make it emphatically a Friends' store; and more attention will be paid to keeping up a stock of plain goods than any other. He has as usual a full stock of French Merinoes, Lyonese Cloths, Alpacas, De Laines, Black and Plain Styles Silks, Prints, &c. Venetian and Vienna Cloths, new and desirable goods; Cashmere-de-Bege, a small lot of that scarce article just received. In book Muslins and Handkerchiefs, his stock is large and, having purchased them under peculiar circumstances, is enabled to sell them at very reduced prices.

A full assortment of Bleached and Brown Muslins, very low by the piece. Friends are respectfully invited to call before purchasing elsewhere.

10th mo. 18th—3mo.

ERCILDOUN BOARDING SCHOOL FOR YOUNG MEN AND BOYS.—This institution will commence its first session on the first Second day of the Eleventh month next, and continue twenty weeks. A large and commodious house has been erected expressly for school purposes, admirably adapted to the health and comfort of the pupils, being well ventilated and supplied with bathing apartments. It is situated in the village of Ercildoun, Chester Co. Pa., in a healthy, moral, and intelligent neighborhood, three miles south of Coatsville on the Philadelphia and Columbia railroad. Pupils conveyed from the latter place to the school free of charge.

All the branches of a thorough education will be taught, including Chemistry, Physiolgy, Astronomy and Rhetoric. A good assortment of apparatus has been obtained to give appropriate illustrations to the course of Lectures which will be delivered once a week, on various Scientific subjects. There is a daily mail to and from the place.

The terms for Tuition, Boarding, and Washing, are $50 per session, one half payable at the commencement and the remainder at the end of the time. Circulars, stating particulars, can be obtained by addressing the Principal, Ercildoun, Chester Co. Pa.

SMEDLEY DARLINGTON, Principal.

8th m o. 9th—3 mos.

ATTLEBOROUGH BOARDING SCHOOL, BUCKS CO., PA., FOR YOUNG MEN AND BOYS.—The Winter Session will commence the first second day in the Eleventh mo., and close with the last week in the Third month of 1852.

All the branches of a thorough English Education are taught practically, together with Drawing and the Languages.

A regular course of Scientific Lectures is delivered each session.

Terms.—English course, with Mathematics and Board, $70. Drawing $10, Latin and Greek $10, French and German $10. GEO. A. NEWBOLD, Principal.

Simpson T. Vansant, Teacher of Languages.

N. B. Circulars may be had at this office.

5th mo. 2—tf.

CHESTERFIELD BOARDING SCHOOL FOR BOYS, Near Crosswicks, Burlington Co. N. J.,

The Winter term of this institution will commence on 17th of 11th mo. 1851, and will continue for twenty-two weeks.

Terms—Sixty dollars per session, including tuition, board, washing, mending, stationary, fuel and lights, the use of all necessary books, &c. except mathematical books and instruments. One half payable in advance, the other in the middle of the term.

H. W. RIDGWAY.

☞ Stages meet the early morning and 2 o'clock P. M. lines from Philadelphia to Bordentown, and pass the school. 10th mo. 25th, '51.

ADAMSON & ROBERTS, WHOLESALE AND RETAIL DRY GOODS.—Adamson & Roberts have just opened, and are constantly receiving, at No. 246 N. Second between Callowhill and Willow, a new and handsome assortment of Fancy and Staple Dry Goods, consisting in part of Cloths, Cassimeres and Vestings, Black and Fancy Dress Silks, English and French Merinoes, Mous de laines, Cashmeres, Linens, Furnishing Goods, &c., which they intend selling at the lowest cash prices, and to which the attention of those wishing to purchase is respectfully invited.

THOMAS ADAMSON,
10th mo. 4—3mos. T. ELLWOOD ROBERTS.

NEW FALL GOODS.—We have just received an assortment of Fall Dress Goods, which we have taken unusual pains to select. Among our stock are:

Plain Mous de Laines, suitable for Friends.
Fancy do do. all wool.
Changeable and Rich Lustre Black Silks.
Brocade and Plain Alpacas.
French and Coburg Merinos, Paramettas, &c.
Mousseline de Bege.
Beautiful English Prints, Friends' style.
Fancy " " and Merrimac.
Book Muslin Hadks., fresh importation, with the usual assortment of Cassimeres, Sattinets, Flannels, &c., &c., for Fall and Winter.

We have also a complete assortment of Black and Brown muslins, all widths, and very cheap.

JAMES SMEDLEY,
9th mo. 3d, No. 8 N. Fifth Street.

REMOVAL.—Ennon Kimber Jr. would inform his friends that he has removed, and is now engaged with Isaac M. Ashton, No. 172 Market street, 4th door above 5th street, where he would be pleased to see all those in want of Hats or Caps, feeling confident that satisfaction will be rendered in regard to price or quality. An assortment of plain hats for Friends always kept on hand or made to order.

CARPETINGS for Friends.—Neat Patterns Three Ply; Superfine and low priced Ingrain Carpetings, also Entry and Stair Carpetings in great variety of pattern: Woolen Druggets from half yard to four yards wide, also Bordered Woolen Floor Cloths all sizes, Table and Stand Covers,

OIL CLOTHS, all widths from one foot to 24 feet wide, Hearth Rugs and door rugs, sheep skins and door mats of every description, all of which will be sold at the lowest market prices by

HARTLEY & KNIGHT
148 South Second street, 5 doors above Spruce, Philad.

EYRE & LANDELL,
S. W. CORNER FOURTH AND ARCH
Philadelphia.

Have established a store where Friends now resort to procure

GOOD SILKS for DRESSES,
Plain style of M De Laines,
Shawls, to suit plain taste,
Neat Ginghams and Calicoes,
Merinoes, Cobourg and Alpacas,
Good muslins by the piece,
Fine Blankets and Bed Quilts,
Cloths, Cassimeres and Vestings,
Plain Style Cloth Table Covers,
Friends' Mitts, Gloves and Hosiery.

E. & L. have at all times a fine stock of Cap Crape, Crapliesse, Gauze, Book Muslins, French Blonde, Tarletan, and other cap stuffs, not only of the first quality but in the best order.

Edward E. Eyre. Washington I. Landell.
Jan 11—tf.

FRIENDS DRY GOODS STORE, No. 79 Arch St between 2nd. and 3rd. north side.

CHARLES ADAMS

Invites the especial attention of Friends to his stock of PLAIN GOODS.

Care is taken to have the most approved kinds of such articles as are suited to the Plain Trade, and at the lowest prices.

Linens and Furnishing Goods, in great variety, at lower than market prices.

TEACHER WANTED.—A Teacher wanted in the Male Department of the Friends' School in Salem, New Jersey. Satisfactory references will be required. Persons applying will address

Salem, 10th mo. 4—3t. CLEMENT ACTON.

BEDDING AND FEATHERS! — Mattresses, Cushions, Beds, Bolsters and pillows of all kinds ready made, or made to order, at short notice

FEATHERS of all qualities,

BLANKETS, Marseilles QUILTS and COMFORTABLES,

Also a full assortment of TICKINGS always on hand, all for sale at the lowest prices by

HARTLEY & KNIGHT,
148 South Second street, 5 doors above Spruce, Philad.

N. B. Feathers baked or scalded and Mattresses REPAIRED

4th mo. 20th.—tf.